import csv

unit\_order,current,time\_covered,last,max\_coverage=[],[],0,0,0

done=[]

def time\_unit\_order(a,b):

unit\_order.append([int(a),int(b)])

with open('2.in','r') as f:

lines=f.read()

lines\_int=[int(x) for x in lines.split()]

n = lines\_int[0]

start, end = [], []

for i in range(1,(n\*2)+1,2):

s,e =lines\_int[i], lines\_int[i+1]

start.append(s)

end.append(e)

for i in range(n):

time\_unit\_order(start[i], i)

time\_unit\_order(end[i], i)

unit\_order.sort(key = lambda x:x[0])

#print(unit\_order)

only\_lifeguard = [0] \* n

timecovered=[]

for k in unit\_order:

if (len(current) == 1):

for i in current:

only\_lifeguard[i]+= k[0] - last

if (len(current) > 0):

time\_covered+= k[0] - last

if (k[1] in current):

current.remove(k[1])

else:

current.append(k[1])

#print(current)

#print(time\_covered)

last = k[0]

for i in only\_lifeguard:

max\_coverage = max(max\_coverage, time\_covered - i)

f=open('2.out',"w")

f.write(str(max\_coverage))

f.close()